

RIVERS AND FLOODS, NOVEMBER, 1911.

By H. C. FRANKENFIELD, Professor in Charge of River and Flood Division.

The only flood of consequence during the month of November occurred in the Illinois River. This river had been in flood during the month of October, and had fallen but little below the flood stage by November 12 when another rise set in as a result of moderate rains over the upper watershed. By November 19 the river at La Salle, Ill., had reached a stage of 20.6 feet, 2.6 feet above the flood stage, and it was reported that 15 per cent of the Illinois Valley corn crop in that section was destroyed by the flood. The river was also from 1 to 2 feet above the flood stage at all points below La Salle.

There were also moderate floods in the Santee and Wateree Rivers of South Carolina, due to heavy rains on November 8 and 9. The Wateree River, at Camden, S. C., reached a stage of 23.5 feet, 0.5 foot below the flood stage, on November 10, while below that point flood stages were exceeded by from 1 to 2 feet. Rimini, S. C., on the Santee River, reported a stage of 13.9 feet, 1.9 feet above the flood stage, on November 14, and Ferguson, S. C., a stage of 13.5 feet, 1.5 feet above the flood stage, on November 16. Warnings were issued on November 10, and no damage was reported.

ICE.

Milk River, at Havre, Mont., was closed by ice on November 8, and the James River, at Huron, S. Dak., on November 10. The Missouri River, at Bismarck, N. Dak., closed on November 10; at Pierre, S. Dak., on November 13, the earliest closing of record. Floating ice was observed in the lower river, reaching Hermann, Mo., on the last day of the month. Ice was frequently observed in the rivers of Kansas and several were frozen over for a few days. The Mississippi River closed at Fort Ripley, Minn., on November 12; at St. Paul, Minn., on November 12 (shore only, the channel remaining open until November 29); at Red Wing and Reeds Landing, Minn., and La Crosse, Wis., on November 19; and at Prairie du Chien, Wis., and Le Claire, Iowa, on November 26. Below Le Claire the river remained open, but at times with floating ice that by the end of the month had reached St. Louis. Navigation at Keokuk closed on November 17.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.